	Application No.	Applicant(s)
Notice of Allowability	10/601,265	FREDIN, GERALD J.
	Examiner	Art Unit
	Gabriel L. Chu	2114

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to *19 June 2003*.

2. ☒ The allowed claim(s) is/are *1-26*.

3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

   a)☐ All   b)☐ Some*   c)☐ None   of the:

   1. ☐ Certified copies of the priority documents have been received.

   2. ☐ Certified copies of the priority documents have been received in Application No. _____ .

   3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

   * Certified copies not received: _____ .

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application. **THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.

   (a)☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached

   1)☐ hereto or 2)☐ to Paper No./Mail Date _____ .

   (b)☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____ .

   Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)

2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)

3. ☐ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date _____

4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material

5. ☐ Notice of Informal Patent Application

6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____ .

7. ☒ Examiner's Amendment/Comment

8. ☒ Examiner's Statement of Reasons for Allowance

9. ☐ Other _____ .

EXAMINER'S AMENDMENT

1.   An examiner's amendment to the record appears below. Should the changes

and/or additions be unacceptable to applicant, an amendment may be filed as provided

by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be

submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview

with Chad Swantz on 9 March 2007.

The application has been amended as follows:

Claim 1 is amended: "A method for recovering data from a redundant storage

object, comprising:

detecting an error in a data image, during a read of the data image from the

redundant storage object;

establishing an index for monitoring the retrieval of a specific copy of the data

image and keeping a log of all copies retrieved to ensure that redundancy in the error

check of the specific copies is avoided;

sending a first command, to the redundant storage object, requesting a _different_

copy of the data image until the response from the redundant storage object indicates

that the requested copy does not exist;

retrieving the _different_ copy of the data image from the redundant storage object

when the _different_ copy exists;

incrementing the index;

determining if an error exists in the retrieved different copy of the data image

retrieved;

and re-writing the data image with the retrieved different copy of the data image

that is determined to be errorless and continuing processing of the redundant storage

object."

Claim 8 is amended: "A method for recovering data from a redundant storage

object, comprising:

detecting an error in a data image, during a read of the data image from the

redundant storage object;

sending a first command, to the redundant storage object, requesting a count of

copies of the data image that exist in the redundant storage object;

establishing an index for monitoring the retrieval of a specific copy of the data

image and keeping a log of all copies retrieved to ensure that redundancy in the error

check of the specific copies is avoided;

determining if the count of copies of the data image that exist in the redundant

storage object equals the index;

sending a second command, to the redundant storage object, when the count is

greater than the index, requesting [[the]]a different copy of the data image;

retrieving the different copy of the data image from the redundant storage object

when the different copy exists;

incrementing the index;

determining if an error exists in the <u>retrieved different</u> copy of the data image

retrieved by the second command;

and re-writing the data image with the <u>retrieved different</u> copy of the data image

that is determined to be errorless and continuing processing of the redundant storage

object."

Claim 15 is amended: "A method for recovering data from a redundant storage

object, comprising:

sending an incorrect data image back to the redundant storage object after an

error is detected in a data image read from the redundant storage object, requesting a

check against all existing copies of the data image in the redundant storage object, and

determining if a copy of the data image exists which differs from the incorrect data

image;

sending a get redundancy count command that retrieves a count of copies of the

data image stored in the redundant storage object, establishes an index, and

determines if the count is equal to the index;

and sending a read redundancy data command, when the count is greater than

the index, requesting a <u>different</u> copy of the data image until the response from the

redundant storage object indicates that the requested <u>different</u> copy does not exist,

retrieving [[a]]<u>the different</u> copy of the data image, determining if an error exists in the

<u>retrieved different</u> copy of the data image, re-writing the data image with the <u>retrieved</u>

different copy of the data image which is found to be errorless, and continuing

processing of the redundant storage object."

Claim 21 is amended: "A computing system for recovering data from a redundant

storage object, comprising:

a host computer assembly in communication with the redundant storage object,

the host computer assembly reading a data image from the redundant storage object

and determining the data image contains an error;

a first command sent by the host computer assembly to the redundant storage

assembly, the first command retrieves a count of copies of the data image stored in the

redundant storage object, establishes an index, and determines if the count equals the

index;

and a second command sent by the host computer assembly to the redundant

storage assembly, when the count is greater than the index, requesting a different copy

of the data image until the response from the redundant storage object indicates that

the requested different copy does not exist, retrieving [[a]]the different copy of the data

image, determining if an error exists in the [[specific]]different copy of the data image,

re-writing the data image with the retrieved different copy of the data image which is

found to be errorless, and continuing processing of the redundant storage object."

Claim 22 is amended: "The computing system of claim 21, further comprising an unrecovered error handler being initiated if the count of the number of copies of the data image in the redundant storage object is equal to the [[data image;]]index."

REASONS FOR ALLOWANCE

2.   The following is an examiner's statement of reasons for allowance: Referring to claim 1, and claims 2-7, the prior art does not teach or fairly suggest establishing an index for monitoring the retrieval of a specific copy of the data image and keeping a log of all copies retrieved to ensure that redundancy in the error check of the specific copies is avoided; sending a first command, to the redundant storage object, requesting a different copy of the data image until the response from the redundant storage object indicates that the requested copy does not exist, in the scope and context of claim 1.

Referring to claim 8, and claims 9-14, the prior art does not teach or fairly suggest establishing an index for monitoring the retrieval of a specific copy of the data image and keeping a log of all copies retrieved to ensure that redundancy in the error check of the specific copies is avoided; determining if the count of copies of the data image that exist in the redundant storage object equals the index; sending a second command, to the redundant storage object, when the count is greater than the index, requesting [[the]]a different copy of the data image, in the scope and context of claim 8.

Referring to claim 15, and claims 16-20, the prior art does not teach or fairly suggest sending a get redundancy count command that retrieves a count of copies of the data image stored in the redundant storage object, establishes an index, and

determines if the count is equal to the index; and sending a read redundancy data command, when the count is greater than the index, requesting a <u>different</u> copy of the data image until the response from the redundant storage object indicates that the requested <u>different</u> copy does not exist, in the scope and context of claim 15.

Referring to claim 21, and claims 22-26, the prior art does not teach or fairly suggest the first command retrieves a count of copies of the data image stored in the redundant storage object, establishes an index, and determines if the count equals the index; and a second command sent by the host computer assembly to the redundant storage assembly, when the count is greater than the index, requesting a <u>different</u> copy of the data image until the response from the redundant storage object indicates that the requested <u>different</u> copy does not exist, in the scope and context of claim 21.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gabriel L. Chu whose telephone number is (571) 272-3656. The examiner can normally be reached on weekdays between 8:30 AM and 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Scott Baderman can be reached on (571) 272-3644. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Gabriel L. Chu
Primary Examiner
Art Unit 2114

gc